

SALVIA CARRILLOI (LAMIACEAE), A NEW SPECIES FROM GUATEMALA

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ABSTRACT

Salvia carrilloi is a new herbaceous species described from the Western highlands of Guatemala. This taxon resembles *Salvia tortuosa* Kunth but differs in having magenta corolla lobes and a white corolla tube, and verticillasters with 9–16 flowers.

RESUMEN

Se describe la especie nueva *Salvia carrilloi* de los regiones montañosas del oeste de Guatemala. La especie nueva se asemeja a *Salvia tortuosa* Kunth pero difiere de ésta por tener la corola con el tubo blanco y los lóbulos de color magenta, y verticilastros con 9 a 16 flores.

During the study of the high montane vegetation of Guatemala (Véliz et al. 2004) and the study of conifers in Guatemala (Véliz et al. 2006), more than 650 vascular plant species were collected, including specimen vouchers made in the Sierra Cuchumatanes. In the Department of Huehuetenango, on Cuilco Mountain, locally known as Peña Blanca, a new species of *Salvia* was discovered and is described below. *Salvia* is the most species-rich genus in the Lamiaceae with over 900 species described (Hedge 1992; Walker & Elisen 2001), and one of its centers of diversity includes the highlands of Guatemala and Mexico, with over 500 species so far described from the New World (Epling 1939; Hedge 1960, 1992; Harley 2004).

Salvia carrilloi Véliz & Quedensley, sp. nov. (**Fig. 1**). TYPE: GUATEMALA. HUEHUETENANGO. Municipio de la Libertad: sierra Cuchumatanes Peña Blanca, cloud forest, 3059 m, N15°30'29.5" W91°54'58.3", 3 Dec 2008, M.E. Véliz 20540 with L.E. Velásquez M. & R. Véliz (HOLOTYPE: BIGU; ISOTYPES: AGUAT, CAS, F, MEXU, NY, TEX).

Salviae tortuosae Kunth affinis sed differt calycibus bicoloribus, corollis tubis albis 20–23 mm longis ac lobis magenteis, labio supero 12–16 mm longo infero luteo 9–11 mm longo trilobato.

Herbs to 0.4–1.2 m tall, erect. **Stems** 3–4 mm wide, square, sulcate, green to purple, villous. **Leaves** opposite; petioles 1.5–9 cm long, villous; blades 3–8 cm wide, 5–11 cm long, ovate to deltoid; margins coarsely serrate, bases subcordate to rounded; apices acute to acuminate; adaxial surface sparsely strigose, bullate; abaxial surface glabrous with glandular punctate dots; veins villous. **Inflorescences** 15–21 cm long, lax, 9–16 flowered verticillasters. **Verticillasters** separated 11–22 mm, forming interrupted racemes; subtended by deciduous bracts, lanceolate, tri-nerved, apices acuminate, ca. 3 mm wide, 10–11 mm long. **Calyces** glandular-hispidulous with glandular punctate dots, lobe apices acuminate to cuspidate; upper lobe green, 3-veined, 9–10 mm long; lower lobe pale yellow, bilobed, 12–14 mm long. **Corollas** hispidulous; tube white, 20–23 mm long, upper lobe magenta, hispidulous, 12–16 mm long; lower lobe magenta, glabrous, 9–11 mm long, trilobed. **Stamens** 2, included, attached near base of corolla throat; filament 8–9 mm long; staminal papillae yellow, 3 mm long, attached on corolla throat and perpendicular to filament. **Style** exerted, pilose, ca. 36 mm long, bifurcate, upper branch 1/3 as long as lower branch. **Nutlets** 2 mm long, 1.2 mm wide, light brown, glabrous.

Etymology.—The specific epithet honors José Ernesto Carrillo (1925–1997), Guatemalan botanist and member of the Facultad de Agronomía of the Universidad de San Carlos de Guatemala, mentor and dear friend of the first author.

Distribution and habitat.—*Salvia carrilloi* is known only from the type locality, Peña Blanca, between 3000 and 3200 m in cloud forest habitat (Fig. 2). Peña Blanca is located in the Sierra Chuchumatanes that extends from west to east in the northwestern part of Guatemala in the Departments of Huehuetenango and Quiché. Woody species of the mentioned cloud forest include *Abies guatemalensis*, *Acaena elongata*, *Ceanothus*

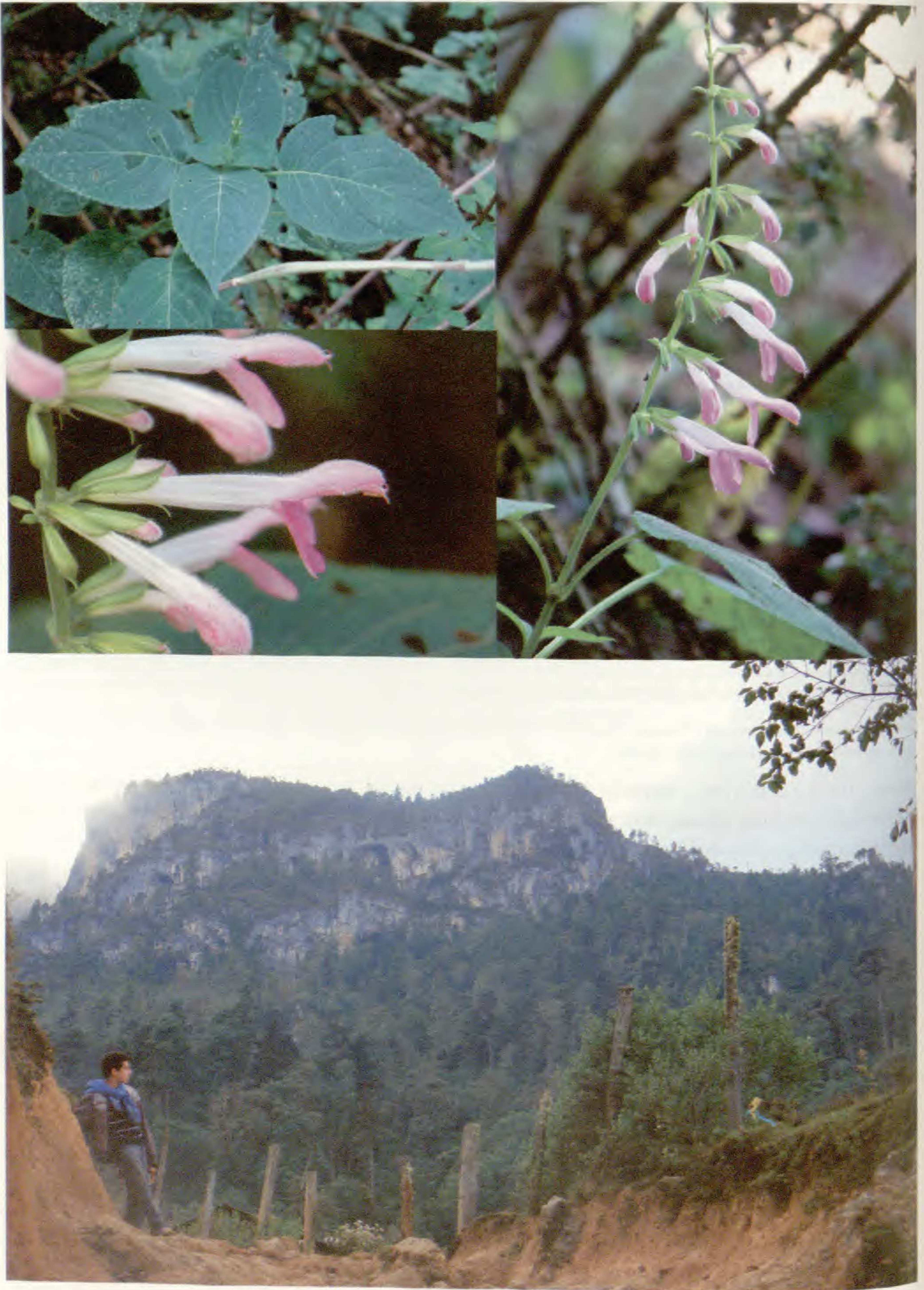


FIG. 1. *Salvia carrilloi*. A. Leaves. B. Inflorescence. C. Flower, side view. D. Peña Blanca (Photos by M. Véliz).



FIG. 2. Known distribution of *Salvia carrilloi* in Guatemala. Peña Blanca is located in the Sierra Chuchumatanes in the Department of Huehuetenango, Guatemala, near the Mexican border.

azureus, *Chiranthodendron pentadactylon*, *Clethra pachecoana*, *Hedyosmum mexicanum*, *Ocotea salvinii*, and *Oreopanax echinops*. Common herbs are represented by *Alchemilla guatemalensis*, *Halenia decumbens*, *Potentilla heterosepala*, *Roldana acutangula*, *R. heterogama*, *Salvia cinnabarina*, *S. excelsa*, and *S. gracilis*. The geological substrate in the area is characterized by limestones of the Cretaceous and Quaternary calcareous material (IGN 1970). The soil is clay and mosses are abundant.

Phenology.—In flower from November to January.

Salvia carrilloi morphologically resembles *S. tortuosa*, but *S. carrilloi* is a smaller herb and has an erect growth habit, the leaves are smaller, the lower lobe of the calyx is pale yellow, the corolla tube is white and the upper and lower corollas lobes are magenta. With regard to its distribution, *Salvia carrilloi* and *S. tortuosa* are considerably disjunct, with the latter distributed in Colombia and Ecuador. *Salvia tortuosa* has not yet been reported from Central America. Morphology suggests that *Salvia carrilloi* must be classified in the section *Tubiflorae* Benth., of the subgenus *Calosphace* (Benth.) Benth. According to Standley and Williams (1973), 45 species of *Salvia* are found in Guatemala, and 312 species are located in adjacent Mexico (Ramamoorthy & Elliot 1993).

Additional specimens examined. **GUATEMALA. Huehuetenango. Municipio de la Libertad:** Peña Blanca, slopes of the sierra Cuchumatanes, cloud forest, 3193 m, N15°30'21" W91°54'56", 14 Dec 2000, M. Véliz 10854 with N. Gallardo and M. Vásquez (BIGU); Peña

Blanca, slopes of the sierra Cuchumatanes, cloud forest, 2783 m, N15°30'57" W91°54'47.9", 3 Dec 2008, M. Véliz 20536 (AGUAT, BIGU); Peña Blanca, slopes of the sierra Cuchumatanes, cloud forest, 2979 m, N15°30'33.0" W91°54'56.6", 3 Dec 2008, M. Véliz 20537 (BIGU, MEXU); Peña Blanca, slopes of the sierra Cuchumatanes, cloud forest, 3016 m, N15°30'32.4" W91°54'58.7", 3 Dec 2008, M. Véliz 20539 (AGUAT, BIGU, MEXU); Peña Blanca, slopes of the sierra Cuchumatanes, cloud forest, 3037 m, N15°30'28.2" W91°54'38.3", 3 Dec 2008, M. Véliz 20542 (BIGU, MEXU); Peña Blanca, slopes of the sierra Cuchumatanes, cloud forest, 3025 m, N15°30'29.1" W91°54'38.1", 3 Dec 2008, M. Véliz 20543 (BIGU, USCG).

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